IDRC FEATURE ARCSER

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FLUORIDE TOOTHPASTE IN KENYA: THE PROBLEM IS NOT CAVITIES

by Fibi Munene

There is a toothpaste debate going on in Kenya. And it is not about cavities. While Europeans and North Americans enjoy the well founded benefits of fluoride toothpaste, its vigorous promotion by foreign multinationals in this East African country may be creating a major health hazard.

People in many regions of Kenya get too much fluoride, mainly from natural sources such as water and food. Using fluoride toothpaste is like "adding fuel to fire", warn concerned researchers at the University of Nairobi.

The Kenya Dental Association, whose activities are funded in part by a fluoride toothpaste manufacturer, has been publicly endorsing the product. The association's chairman, Dr. G. Owino, argues that "dental caries are on the increase in Kenya and, to date, fluoride is the only accepted anti-caries agent that dentists can use."

Many of his colleagues disagree. They maintain that with about 60 percent of the population suffering from some form of fluorosis, a disease caused by an excessive intake of fluoride, the use of fluoride toothpaste is hardly in the interests of public health.

The presence of endemic fluorosis in eastern Africa is now well established. The condition is associated with the drinking of groundwater in regions with volcanic rock containing high levels of soluble fluoride salts.

The countries that are most affected by endemic fluorosis lie within

Africa's Great Rift Valley. They include Kenya, Tanzania, Uganda, Ethiopia, the Sudan, Rwanda, Burundi, and parts of Zambia, Mozambique and Zimbabwe.

The fluoride toothpaste debate has been the focus of public attention for more than a year in Kenya. The Ministry of Health recently banned the advertising of toothpaste containing the additive. Until December 1982, only fluoride toothpaste was available in Kenya.

According to Dr. K.R. Nair, co-author of a major report on fluoride in rural water, the advertising campaign mounted by toothpaste manufacturers had, until recently, convinced Kenyans that it was necesssary to use fluoride toothpastes to have strong, white teeth.

Even a slight excess of fluoride will lead to yellowing of the teeth. At higher levels, tell-tale grey patches appear and the enamel of the teeth fractures. And at higher levels yet -- in the range of 40 milligrams a day -- a person may become crippled or even die.

It has been found that as much as 30 percent of the fluoride in toothpaste may be absorbed by the body. And it has also been documented that children are particularly vulnerable to fluorosis when teeth are being formed, and because they like to eat large amounts of the sweet fluoride toothpaste.

With a grant from Canada's International Development Research Centre (IDRC), the University of Nairobi and the Ministry of Water Development have collected data from over 29,000 people and 1200 samples of water from boreholes, and have documented the seriousness of endemic fluorosis in Kenya.

It is expensive to remove excessive fluoride from drinking water. A defluoridation plant built recently in Kenya cost some KShs 2,000,000; operating and maintenance costs are also high.

Another IDRC-sponsored project in India experimented with simple

defluoridation techniques, such as the addition of sodium aluminate, lime or alum to the drinking water. These cause fluoride compounds to coagulate into heavier aggregates which are then readily removed by sedimentation and filtration.

Research in Kenya so far shows that locally available materials such as clay, carbonized coffee husks, and bone meal have good potential as defluoridation agents. The use of clay pots in the home may also help resolve this major public health issue.

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